

The Piraunui Pa at Matawhana, Waikato.

By L. W. DELPH, King's College, and GILBERT ARCHY, Director.

The dissection of the high rhyolite plateau of Central Waikato has resulted in a series of characteristic rock-capped headlands, extending for several miles south of Arapuni on both sides of the river, and on certain of these natural strongholds are the elaborate terraces of Maori fortifications.

In the vicinity of Matawhana there are three such *pa*: Pirau-nui, Pirau-iti and a small one unnamed. Pirau-nui is the furthest south and is directly opposite the quarry from which the rock for the Arapuni hydro-electric construction was taken.

Through the kindness of Mr. A. Commons, owner of the property, we were able to examine these *pa* shortly after the scrub, fern and tall grass had been burnt off Pirau-nui, thereby clearly revealing the general lay-out and the terraces; and the following description is based on a plane-table survey made at the time.

The general arrangement (Plate 8, plan) comprises:—

- I. A flat portion the *marae* high up on a broad spur, below which is
- II. A series of terraces on either side of the steeper ridge formed by the narrowing spur: these lead down to
- III. A still narrower and much steeper sided (walled might be a better term) ridge cut across by a deep fosse and so forming a strongly protected approach to
- IV. The stronghold or "citadel," a high rhyolite-capped vertical-walled spur, which would, we imagine, have been well-nigh impregnable against attack, rising as it does, with sheer precipitous cliffs above the deep Waikato valley, which was, as we watched it, being steadily converted into the new Arapuni Lake.

To the east, above the *marae*, the hills rise quite a hundred feet, and on this open, undefended area are numerous food-pits, and several not very well defined depressions, which may have been house-pits.

AREA I. THE MARAE.

This area, 165ft. by 120ft., is almost level, and contains 10 large *whare* sites the largest of which is 20ft. x 15ft., and may have been that of the *Whare-runanga*, the others being, perhaps, guest houses or the *whare* of the leading members of the community.

The *marae* is protected on three sides by a trench, entrance being made by a gateway, 15ft. wide, situated almost mid-way along the eastern side. We found no trace of a *ngatu* or entrance-screen.

The trench was cut in loose soil and is now half filled, but appears originally to have been 5ft. deep, i.e., including the bank of earth thrown up on each side.

In places the large holes occupied by the main palisade posts are still open, and one or two actual butts are in place, being *totara* posts about 1ft. in diameter. Fires would have destroyed the actual stockade many years ago.

The trench on the north side comes off at an angle of about 80 degrees from the front trench, and although well defined, is quite flattened out. It goes down the hill from the edge of the plateau to a point at which the slope into the gully to the north is sufficiently steep to need no more than a single palisade to afford protection.

The trench to the south consists of a number of short lengths that follow roughly the edge of the flat ground, and so shield the terraces below. It comes to a rather indefinite end outside the third series of terraces mentioned below.

AREA II.

The second main portion of the *pa* consists of four series of terraces, each, perhaps, occupied by a family. One series, that on the ridge between the two gullies, is almost obliterated, but the other three are particularly well defined, and, but for the trampling of stock, would have their house walls and food pits undamaged.

On the north this area is protected by the trench previously mentioned; while to the north-west is a single trench following the contour line to the point where the slope itself becomes too steep to need organised works, and near to where the sterner fortifications of the gap begin. It is probable that a strong palisade closed any gap that might have existed. To the south-east protection is afforded by a continuation of the main outer work. This is continued in a curving wall, which may either mark the site of a palisade, or have been a device to shed water from the hill above from the terraces below. On the south side there is no clearly defined trench. At this point too, palisading would have been sufficient.

To the west the area leads into the main fortified part of the *pa*, by means of a narrow ridge, across which there was, doubtless, a strong palisade.

The living terraces are more or less uniform in size. We have not been able to describe the second series owing to the difficulty in tracing the various features. The others we have labelled from north to south as X, Y and Z.

Terrace Series X.

In this series there are five terraces, their northern edges being the inside of the trench on that side of the *pa*. Their other ends reach to the ridge running down middle of the *pa*.

The *whare* sites are interesting in that while on most of the terraces in the other series they are facing the north, they are facing the north, south and west but not east.

The upper three seem to have a subdivision on the trench side, the uppermost has a distinct wall cutting off a portion 22ft. by 21ft. Their proximity to the trench seems to indicate that they might have been inhabited by men concerned with the defence of the *pa* on that side.

On each terrace there are four or five *rua* placed in line down the middle of the terrace.

The general arrangement of the terraces and the whares thereon can be seen on the plan.

The sizes of the terraces, which are about 6ft. below one another are:—

- X 1. 75ft. x 21ft. It has a short wall and a path at the middle.
- X 2. 75ft. x 21ft. It also has a path, behind the two central *whare* sites.
- X 3. 80ft. x 30ft. Half way along is a well-defined circular terrace about 3ft. high.
- X 4. 81ft. x 30ft., and X 5. 96ft. x 30ft. They are not so well preserved as the upper ones, and are without traces of whares at the outer ends.

Below the last terrace the ground falls suddenly by a scarp and about 15ft. below is a moderately well marked trench curving along the contour from the straight trench on the north side to the steep slope on the edge of the narrowest portion of the ridge.

The second series of terraces lies just to the other side of the ridge, and has suffered more damage from stock. The actual position of the terraces could be seen, if not the *whare* sites and *rua*, many of these latter having been filled up on account of accidents to stock. The highest terrace of all was of considerable size being 75ft. by 39ft., and had immediately between it and the edge of the plateau above, a terrace, backed by a ten foot scarp, at the bottom of which had been excavated five *rua* with their roofs at ground level. These were cut into the soft subsoil and would probably have had *totara* slab doorways, which have since disappeared.

At the south end of this terrace were three well marked house sites facing north.

Terrace Series Y.

The third series consists of five large terraces following the contours of the hill. Whereas the other two groups lie immediately below the main plateau on either side of the ridge, this third series is protected above by a continuation of the main outer trench with a number of short trenches at right angles to each other. The division of the second from the third group is not very well defined, but the general arrangement is in echelon.

The slope on this side is fairly steep and the average difference in the level of the terraces is about twelve feet, this being represented in each case by a sheer scarp, in places somewhat broken down.

- Yi. From the outer trench above, a slope of about 15ft. brings us to the scarp of the uppermost terrace. Dimensions 48ft. by 30ft.
Whare: only one evident. S.W. corner, facing north. 9ft. by 11ft.
- Yii. A short slope leads to the upper edge of the second terrace, with a scarp of 12ft. The south end of this terrace is protected by a short embankment connected with the end of the main outer trench which occurs at this point. This may represent a *waharoa* or passage behind a gate, as this seems a strategic point for an entrance. Dimensions 80ft. by 25ft.
- Yiii. The next terrace is 12ft. below the last. Dimensions, 90ft. by 30ft.
Whares: Three at south end facing north.
- Yiv. A ten foot drop brings us to a narrow ledge, two feet above the level of the next terrace. There is at least one *rua* cut into the scarp on this ledge. There are probably others buried under the fallen soil.
Dimensions, 54ft. by 33ft.
Whares: Two at the south end, facing north.
One at the north end, facing south.
The west and south boundaries of this terrace are well marked, the southwest corner being particularly well preserved.
- Yv. A slope of about 12ft. leads to the lowest distinct terrace in this series, one which has no special features. At this point the slope is getting too steep for more than just comparatively narrow ledges, though quite some seven yards below there is a minor terrace about 24ft. by 18ft. This does not seem to have been used as a living terrace.

Terrace Series Z.

The fourth series was in a better state of preservation than the other three, particularly the walls on the south side. The curved mud wall previously mentioned formed the boundary on the east side, i.e., on the up slope. Between it and the upper terrace there is an unbroken slope, with no evidence of trenching or terracing. The distance from the mud wall to the terrace was about 10ft. There was also no evidence of a trench protecting the series to the south, but here there is a slope sufficiently steep to need not more than a strong palisade, with perhaps towers.

- Zi. Below the level of Yiii.
Dimensions, 60ft. by 24 ft.
Whares: Two, at the south end, each 12ft. by 9ft., facing north. One in the north-east corner, of the same size, facing south.
- Zii. 6ft. below the level of Zi. A passage at the south-east corner leads behind a *whare*. This terrace is below the level of Yiv.
Dimensions, 50ft. by 24ft.
Whares: One large one in south-east corner, 21ft. by 9ft.
- Ziii. This terrace was separated from the last by a long slope which terminates abruptly in a scarp ten feet high. A pathway leads behind the whares at the south-east corner.
Dimensions, 78ft. by 24ft.
Whares: Two at the south end, each 12ft. by 9ft. facing north. One, small, 9ft. by 6ft., at the north end, facing south.
Rua. Evidence of several down the middle of the terrace.
- Ziv. A 12ft. drop brings us to the next, which reaches to the sudden steep slope of the valley below.
Dimensions, 51ft. by 30ft.
Whares: A site in the south-east corner and what appears to have been the base of a watch tower, i.e., four walls 12ft. by 16ft., enclosing a space, at what must have been a very strategic spot in the pa.

The absence of protection on this side is remarkable. If there were strong palisades, there is no remaining evidence of them. Below this series is a short length of trench overlooking the steep slope below. On the gentler slopes, below, i.e., to the south of this trench, there are traces of other living terraces which would have been outside the *pa* proper, but would have been on the direct route to the water supply below.

AREA III. THE NARROW RIDGE.

Between the above mentioned series of terraces and the stronghold proper there still remains an interesting area, the softer part of which has been more or less obliterated by cattle, but at about twenty-five yards from the lower terraces, the harder rhyolite rock comes to the surface, and the remaining part of the pa remains well defined, with the exception of some of the other lower pathways.

This area may have been protected from above by a palisade.

The terraces from here forward, have been lettered, commencing from the extreme western point of the headland.

Terrace H.

This is a raised structure apparently further heightened by some of the rubble from the main fosse. There are traces of its

being divided into two whares sites at the side nearest the fosse. To the north side it is excavated for the greater part of its length out of the solid rhyolite down to the level of the floor of the fosse itself, leaving a butt that was probably roofed over.

Terrace M.

Almost immediately below H., on the north side, and some twenty feet down, is the terrace M., also cut out of the rock and forming what must have been a fighting platform 30ft. by 15ft., with a sheer drop from the edge. It is prolonged into a narrow path to the east, which narrows down to 3ft. in about 30ft., and so shrinks till it becomes part of the cliff.

In the sloping rock above the vertical wall is a gutter cut from one corner and then down at the east end; this appears to have been a water channel or possibly the support of a gangway leading from above to the floor of the terrace itself.

Terrace N.

On the south side of the Terrace H., we have a terrace N., apparently not connected with the other lower terraces. This is 12ft. by 15ft., below the level of H. with which it is parallel. To the east it is cut back into the rock and in each corner is a deep food pit of the cave type. Deep grooves are cut into the sides and back at the level of the top of the terrace, probably for roofing. The terrace drops off abruptly some feet at the fosse end and probably was not intended to communicate with terraces beyond the fosse.

Terrace O.

Below N. is a similar terrace, O., somewhat wider with evidences of rubble walls both between it and N., and between it and R., below. O ends abruptly at the fosse end, but it is almost at the level of P. mentioned below, with which it may have been connected by a bridge.

Terraces R. and S.

These are both about 5 yards wide and lead down to below the living terraces of series Z. They possess no special features and are rather indistinct, but a lot of work seems to have been done here in the matter of building rubble walls, particularly in the outside of terrace S.

The terraces of the above group form a distinct unit on the upward side of the fosse and in themselves must have been particularly strongly palisaded to protect them against attacks from below.

The Fosse.

The fosse, as usual, is sited at the narrowest constriction of the headland, and is excavated, at first, in the softer subsoil and below in the rhyolite.

On the side of the terrace H., i.e., the uphill side, it rises to a height of twelve feet, while on the headland side its wall is 18ft.

high, with but a slight slope out of the perpendicular. At either end the fosse falls away abruptly to the valley below.

To the north side it has no connection with the other terraces, but to the south it is cut away abruptly at the level of the terrace N., and has in the corners two pits similar to those described on the terrace N. Below this it may have been cut away further but debris from above has obliterated any sign of this. It was probably cut deeply, leaving a wide gap between terraces O. and P., and Q. and R.

At the east side of the fosse is an interesting series of pits with masoned doorways to be described later, and there occurs at least one pit on the other side in the north-west corner. There may be others but they could easily be concealed by the debris now lying on the floor of the trench.

AREA IV.

This area is the *pa* proper, consisting of five larger terraces and a number of narrow pathways leading back to the ends of the fosse across which there may have been bridges. Immediately above the fosse is the high rampart G., the upper part of which consists of rubble excavated from the fosse itself. The level top of this rampart is 30ft. by 9ft. On the flanks it falls away at a steep angle around which it would have been impossible to climb. On the fosse side is a drop of 18ft. to the bottom of the ditch, while on the other side it is 6ft. higher than the first terrace of the stronghold. This area was probably enclosed by a high palisading and on the fosse side are depressions that seem to be the remnants of the post holes.

Terrace F.

At the fosse end this is the same width as the rampart above, but it widens to about 50ft. Its width from back to front is 27ft. On it there are traces of whares and rua. There are no pathways to the rear.

Terrace E.

A drop of 8ft. brings us to the more or less rectangular terrace E. This is 66ft. by 30ft. At the south end it falls away slightly. At this end there is evidence of a small whare, and here there were some small pieces of palisading still in place. At this point also steps are cut, leading to the pathway P., below, and, probably, continued to Q., and also to Qi. below that. There are traces of several rua on this terrace.

At the north side a wing leads to the pathway J. above which is an interesting group of *rua* (described later), cut in the wall below the terrace F. Similar pits are to be found above the pathway P.

Pathway K. (Pl. 8, North elevation)

From the pathway J., there is a small track leading to the narrow pathway K. in the wall of which are further rua.

Terrace L. (Pl. 8, North elevation)

Still further down below K., is a narrow rock-cut terrace of the same form as M., described above, situated on the edge of the precipice. At one end of this are well-cut steps in the rock. At its widest the ledge is 9ft. wide. The back wall is cut clean for a height of 12ft. There were two well cut pits in the inner angle, and at least one in the process of excavation. The east end is a perpendicular wall, and to the west it tapers off to a small sub-terrace slightly above its own level.

Terrace D.

Returning to terrace E. a passage leads past two food pits to D. on which are the remains of *whare* sites, and from which the pathway P. actually starts. A *whare* has been built on the east side against the wall which is 6ft. high. D. is 72ft. by 30ft. The north wing is led back below the level of E. to become the terrace K. though the connection is rather vague. On the other side, the wing leads back to become the terrace P. on the upward side of which there are *rua*, with circular doorways. This pathway leads back to the fosse at the level of O.

Terrace C.

From D. to C. there is a 12ft. drop. On it is a large number of *rua*, well preserved. C. is 90ft. by 33ft. At the south side a wing goes back to become the pathway Q. Below that, at about the junction of E. and F. there is, several feet below, a small ledge Qi. a few yards long and hardly a yard wide, with a sheer drop below. Where Q. leads off from the terrace C. there is a small *whare* placed obliquely on an area 15ft. wide, narrowing to the back. On the north side the terrace ends abruptly, but 25ft. below is another ledge similar to Qi. on the other side. In the extreme north-west corner is a mud wall that is built on the brink and may have been the site of a tower.

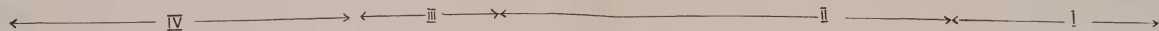
Part of the drop between C. and D. consists of a ledge about 3ft. wide and 3ft. above the terrace below.

Terrace B.

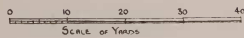
Between C. and B. for part of the distance there is a terrace 6ft. wide and 50ft. long, about 4ft. below C. Below this a 9ft. drop brings us to B. itself, which is the last well defined terrace on which habitation would have been possible. At its widest it is 30ft. and its longest dimension is 100ft. On the south side there is a well marked building site. Narrow wings lead back to below the level of the terrace C., but these are not continued. There are several food pits on this terrace.

Terrace Group A.

At the extreme end of the strongholds the terrace B. leads to a number of sub-terraces, with just room for movement. These we have grouped as A. On these terraces are several *rua* of a combined type of pit and cave, and the mouth of one of these

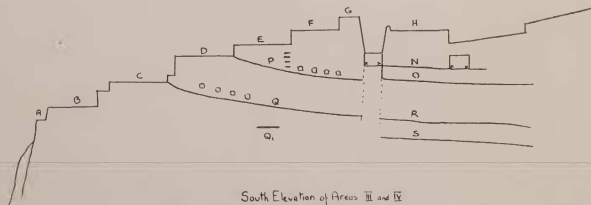


PIRAUNUI PA.

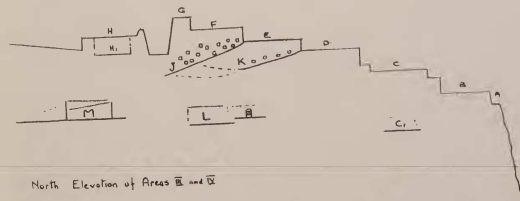


V-V' Section through Areas III and IV

A-B Section through Areas I and II



South Elevation of Areas III and IV



North Elevation of Areas III and IV



still retains the totara slabs and part of the lid. To the southwest some feet below the level of B. there is another small ledge, with a bare rock still further down, which it would have been possible to reach by means of a ladder. This would give a commanding view of the whole forward face of the stronghold.

This completes the description of the terracing of the hill as far as we were able to map it. There is evidence of terraces in several places outside the pa, particularly below the south side of the fosse and also over the hill beyond the series of terraces Z.

RUA.

The Piraunui pa is very rich in store-pits of both the usual types, viz., RUA KOPIHA (subterranean) and RUA TAHUHU (semi subterranean).

Rua Kopiha.

In general the *rua kopiha* was built wherever the flat ground was available, but in addition, *rua tahuhu* were found at the base of some of the terrace walls. We had little opportunity of investigating them beyond noting their position, and inspecting their entrance. Stock had damaged a great number of them, and Mr. Commons told us that he had lost a considerable number of fat beasts and also a thoroughbred mare in them. Unfortunately several, which, he said, were large, had had to be filled in.

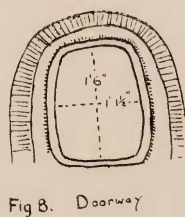
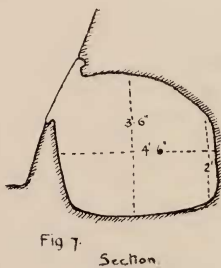
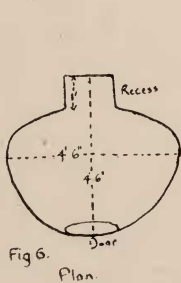
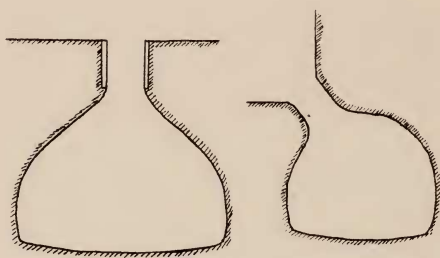
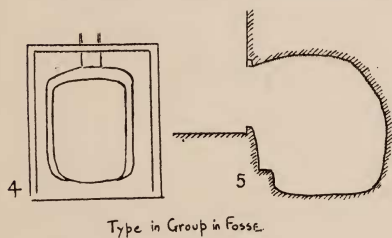
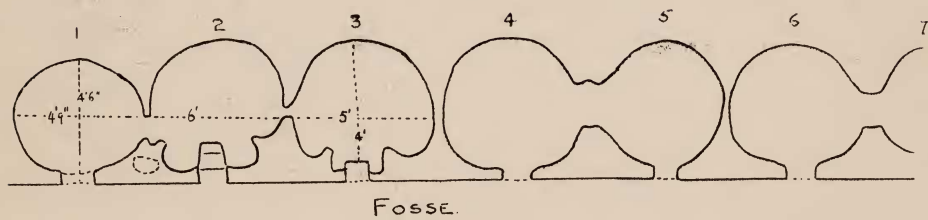
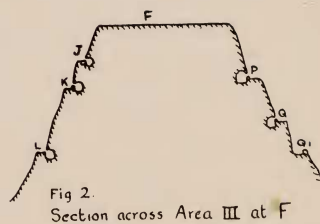
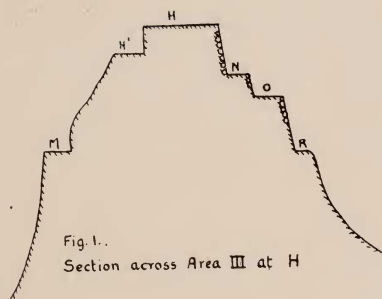
Those that are situated on the living terraces are usually from 6ft. to 9ft. in diameter and 5ft. to the top of the dome. On Piraunui we came across one cut in the rhyolite, and containing only an inch or two of debris. On cleaning this out we found that a ledge had been left on one side, and also partitions to divide the floor into bins, which would indicate use for the storage of roots.

In no cases, on the living terraces did we find the slabs used to cover the mouths, but on one of the subterraces of A. we came across one with the original door frame-pieces still in place. These were tightly fitted to keep out the loose soil at the side of the mouth and, resting on the upper edge of one of them was a slab, the wood being well cut and originally about 2in. in thickness.

The position of the *rua* on each terrace was more or less uniform, being in one or two rows down the middle and at intervals of 6ft. to 9ft. This would bring their division walls quite close together, and from those that we saw elsewhere there were doubtless, in some cases, holes connecting them.

The pits in the angles of the walls were sunk below the entrance level, and were thus exactly similar to those in the open.

In the stronghold proper, there were still several *rua kopiha*, those on terraces C. being well preserved. Again there were also several in the angles of the scarps between the various terraces. Those at the extreme western end of the pa were filled with debris but their proximity to the precipice makes them particularly interesting.



Type on Pathways J K P Q

The *rua* penetrated the loose subsoil into the semi-hard rhyolite. The instrument used had been about $2\frac{1}{2}$ in. in width, and the stroke a short one from above downwards. In some pits were fairly large blocks of stone that had not fallen from the roof. The walls and domes were still intact, and it would seem that the method was to work in behind blocks of stone and so break off large pieces. Finally the rock was carefully trimmed and shows a finish that would not disgrace a mason of the present day, with his efficient tools.

Rua Tahuhu.

In and about the fosse, and in the steep walls on either side of the headland, we found groups of *rua tahuhu*, cut, for the most part, in the rhyolite.

In the fosse, these were situated in the eastern side at the foot of the wall, with the lower ledges of their vertical doorways at ground level. The floor of the *rua* would be from one to three feet below the level of the fosse. In this row were seven, all the same level. (Text Fig. 3.)

No. 1 is 4ft. 9in. across and 4ft. high. To the right of the door a niche was cut in the wall. The walls and dome are roughly trimmed and still as white as when they were finished. This *rua* leads by an opening large enough for the passage of a man into No. 2, the main part of which is 4ft. 6in. in diameter. Below the doorway a stone step has been left projecting 1ft. 6in., leaving two niches 1ft. deep and 1ft. 6in. wide. A small hole connects 2 and 3.

No. 3 is similar in shape but smaller in size, being 4ft. from door to back and 5ft. long. Here again there are projections on either side of the door, leaving recesses about 1ft. in depth. The height from floor to roof is 3ft.

No. 4 and No. 5 are similar to the last and are joined so as to form one large *rua*.

No. 6 and No. 7 are connected in the same way, while from the floor of No. 7 a shaft appeared to be responsible for light shining in a *rua* in the angle of the step below, where terrace N. joins the fosse.

The doorways of these last *rua* are interesting. The best was that of number 4. The outer aperture measured 1ft. 6in. by 2ft. 6in. Within this the rock was cut away behind, leaving a rebate all round. The rock between presented a flat surface except at the top where there was a piece cut out as if for a key-stone. The whole gives the impression of having been closed by a trap door lifting vertically.

In all terraces cut from the solid rock there occur *rua* in the corners, some of these are unfinished and several are only started. But in all cases they show the same careful workmanship.

The next group of *rua* occur in the terrace J. (Text Figs. 6-8) These are in two rows in the steep side of the headland under the terrace F. Their doorways are well cut, and are just wide enough to admit a man; being from 1ft. 6in. to 2ft. high

and 1ft. 3in. to 1ft. 6in. wide, and at times more nearly circular than those already described. In most cases there was a deeply cut groove round the doorway, giving evidence of their being closed when not in use. Their average dimensions are 4ft. 6in. from back to front and 4ft. 6in. wide. At the back the dome meets a vertical wall about 2ft. in height, while in some there was a pronounced recess 1ft. deep.

In most cases there was a ledge or step 18in. below the opening. The walls were clean and in several the floor was damp, but this may have been a recent accumulation. These seemed more likely to have been for water storage, which would have been very necessary in the stronghold itself, but in two cases they were connected to the neighbouring rua by small holes. The first and second from the fosse, in the lower level, were similarly connected, as were three towards the other end of J. In the latter case one in the upper set was joined with those on either side of it in the lower set.

A single row of rua occur in the pathway P. (Pl. 8, south elevation) on the other side of the stronghold; these were of the same form as those in J. and were situated at the level of the pathway.

It should be mentioned that, in the pastures behind Piraunui, there are literally hundreds of other holes or traces of them. They may, however, as a local maori suggested, have been rat-catcher's pits.

Any house walls that may have existed on this upper undefended area would have long ago been obliterated by the trampling of stock.

GENERAL.

Immediately below the front of the pa, where the steep slope eases off on to the river terraces, was a large flat sided boulder that had fallen at some time or other from the headland above. This was deeply grooved in a vertical direction and the opinion is expressed locally that it is a *hoanga*. It seems to be a very soft rock for sharpening tools; but why else the grooves?

One other object of interest was observed. By the creek on the south side of the pa, was a trough cut out of a boulder. We excavated at least 2ft. at the sides and at one end without coming to the underside of the boulder and we assumed that the trough had been cut *in situ*. It was 6in. thick all round, 20in. long, and 16in. wide at one end, and 11in. at the other. The trough was about 18in. deep. It may have been used to facilitate the filling of water vessels. One of us (L.W.D.) has noticed a similar trough in a small creek near a *pa* on the Mercury Islands.

Near the homestead on the station is a tree of peculiar shape, the trunk being much thinner near the ground than it is for most of its length. This, Mr. Commons has been asked not to cut down, as it contains the spirit of a long dead chief, and it is believed that a dog or a horse tied to it for a night will be found in the morning to have sore feet, due to its following the nocturnal perambulations of the chief.

The life on this pa leaves little to the imagination. Below, on the fertile river terraces of the Waikato, there was ample room to grow the food necessary for the inhabitants. The river and its creeks were always there for fishing, and the forest behind must have abounded in bird life and in edible plants. On the vast pumice plains around would have grown sufficient fern to supply any number of people. The main difficulty must have been the carriage of water and of stones for hurling down on the enemy. Further up the river there is reported to be an outcrop of a stone hard enough for the ordinary implements.

The history of the *pa* is vague. No definite time can be ascertained for its abandonment. It is known that the tribe which built it and inhabited it were the NGATIRAUKAWA. A legend prevalent among the Maori in the district is that this tribe joined a tribe from nearer the slopes of Maungatautiri on a raid to Taupo. They were returning, successful, from this raid when they were mistaken by the remnant of their own tribe, who had been left behind, and in the ensuing melee in the forest above Piraunui a great number were slain. This may or may not have caused the remnant to abandon the *pa*. Another version is that a shot of welcome (?) killed an important chief of their allies and the chief of the Ngatiraukawa delivered himself up to satisfy the *utu*, which placed the Ngatiraukawa in a servile position to the tribe from beyond the river, and led to their abandonment of the fortress of Piraunui.